

June 2015 Climate Review for Puerto Rico and the U.S. Virgin Islands

...Based on data received until July 15th...

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Synopsis

A fair and stable weather pattern prevailed across the local islands during June with mostly clear skies and a few locally induced showers. An average rainfall total of 1.97 and 1.52 inches was observed across Saint Thomas/Saint John and Saint Croix, respectively. This is only 78% and 58% of their normal rainfall for the month of June. Across Puerto Rico, an average rainfall total of 2.40 inches was observed, which is 2.28 inches below normal.

The highest maximum temperature recorded this month was 96°F at Lajas Substation on 6/23, and the lowest minimum temperature was 65°F the same day at Maricao 2 SSW. Overall, June can be described as a dry and hot month across the local islands.

Based on radar and raingauge data retrieved from the Advance Hydrologic Prediction Service (AHPS) as well as COOP data, short and long term rainfall deficits are observed across the eastern half of Puerto Rico as well as Saint Thomas/Saint John and Saint Croix. In the case of eastern Puerto Rico, 2015 rainfall deficit combined with 2014 and 2013 rainfall deficits has resulted in moderate to severe drought conditions. Under El Niño conditions, this dry pattern will continue across the area.





RAINFALL

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Islandwide climate record period: **1940 to 2015**
San Juan Metro Area climate record period: **1898 to 2015** (*Primary climatological site*)
Cyril E. King Airport/St Thomas climate record period: **1953 to 2015** (*Primary climatological site*)
Henry E. Rohlsen Airport/St Croix climate record period: **1951 to 2015** (*Primary climatological site*)
Following WMO criteria: Less than 10% of missing values

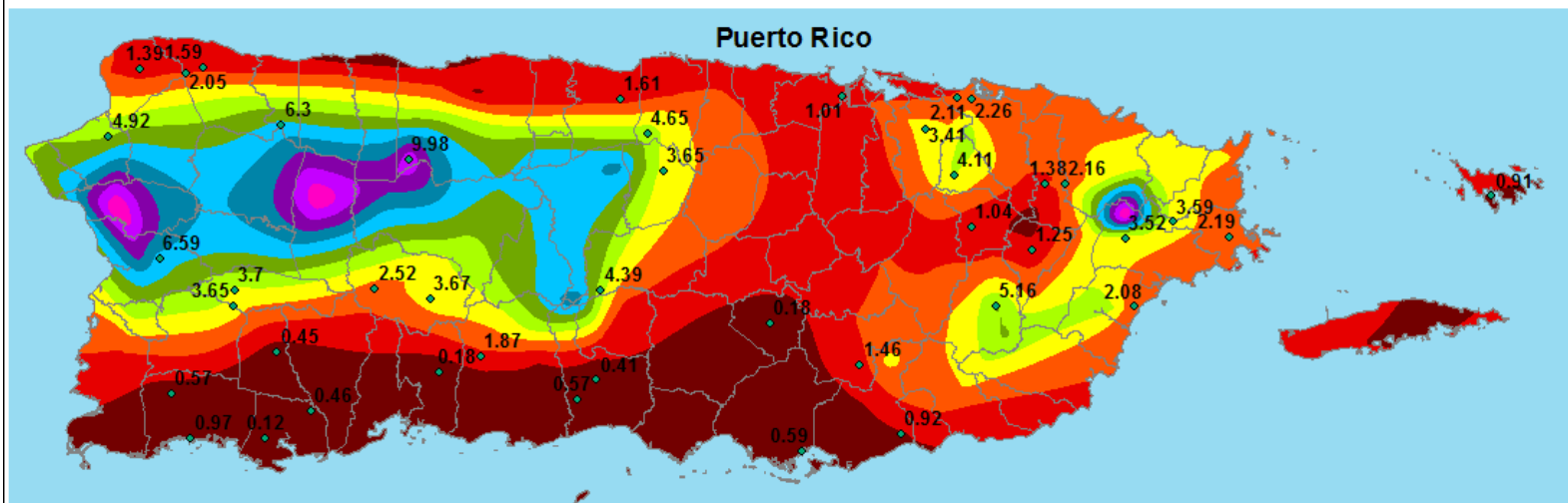




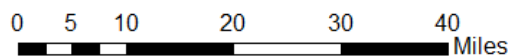
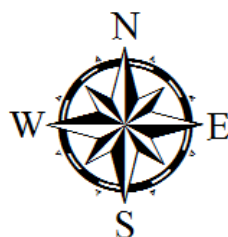
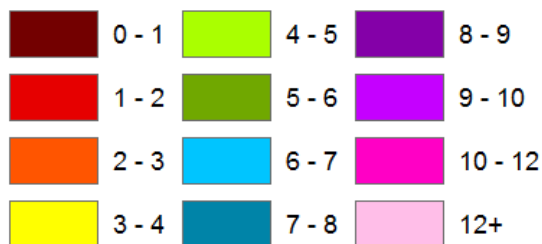
2015 June Observed Rainfall

Data Source: COOP, RAWS, CoCoRaHS, USGS
National Weather Service WFO San Juan

Data is Preliminary



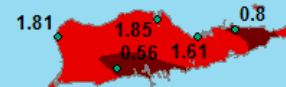
Rainfall (inches)



Saint Thomas / Saint John



Saint Croix



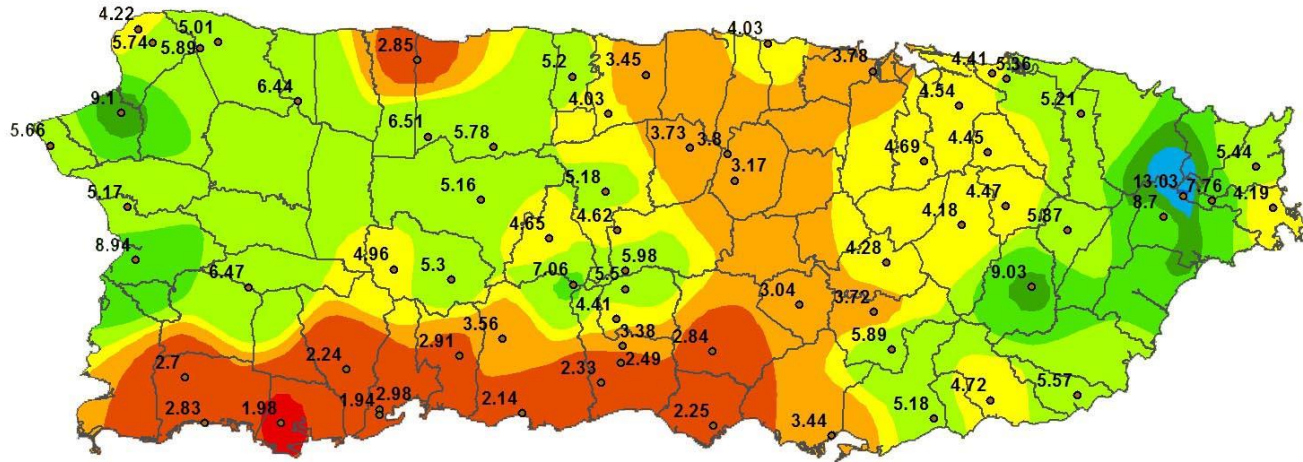
http://www.srh.noaa.gov/sju/?n=pr_usvi_normals



June Normal Rainfall 1981 - 2010



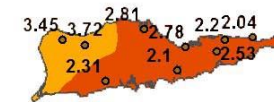
PUERTO RICO



Monthly Rainfall (Inches)



ST. THOMAS / ST. JOHN



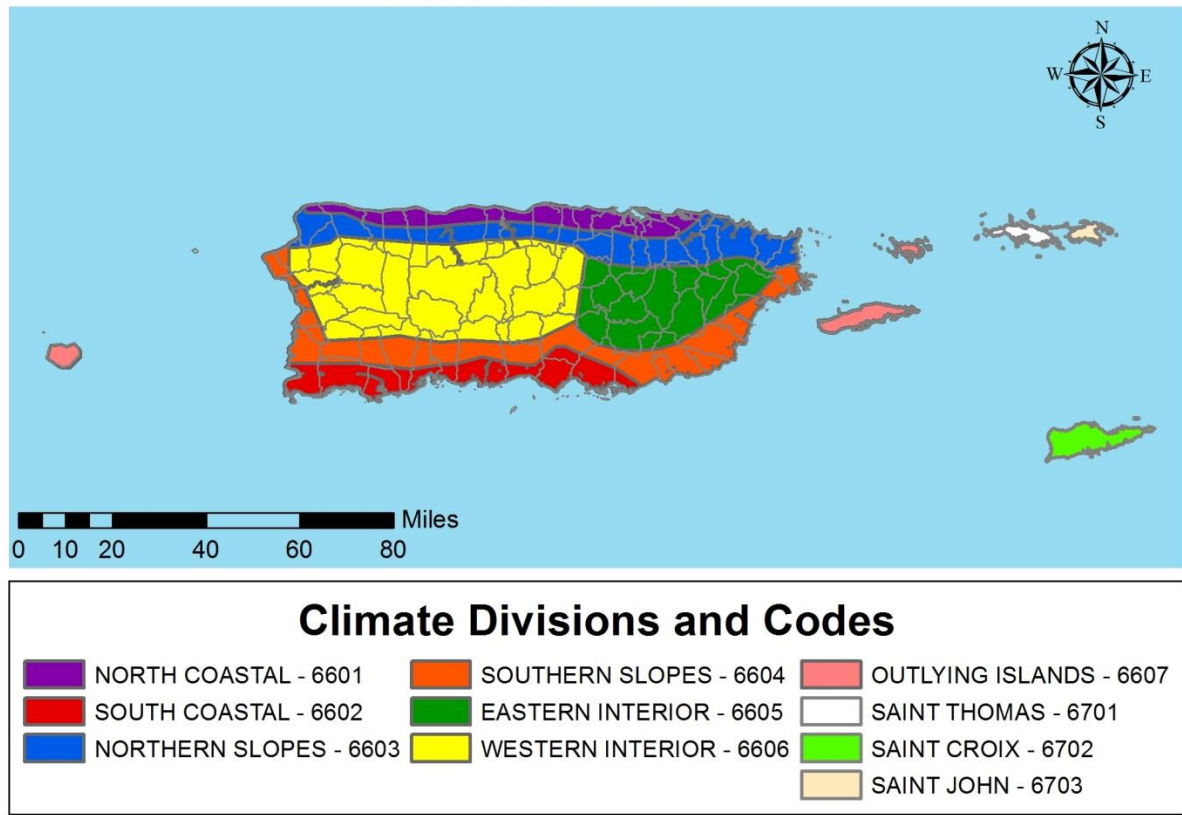
ST. CROIX





2015 Average Rainfall Accumulation per Climate Zones

Puerto Rico and U.S. Virgin Islands Climate Divisions



2015 Average Rainfall Accumulation per Climate Zones

North Coastal	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
OBSERVED	3.98	3.81	2.73	1.82	4.17	2.50	---	---	---	---	---	---
NORMAL	4.06	2.96	2.87	5.16	7.24	4.71	---	---	---	---	---	---
%PON PER MONTH	98	129	95	35	58	53	---	---	---	---	---	---
ACCUMULATED	3.98	7.79	10.52	12.34	16.51	19.01	---	---	---	---	---	---
NORMAL												
ACCUMULATION	4.06	7.02	9.89	15.05	22.29	27.00	---	---	---	---	---	---
% PON ACCUMULATED	98	111	106	82	74	70	---	---	---	---	---	---

South Coastal	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
OBSERVED	1.92	1.85	1.79	1.18	2.45	0.53	---	---	---	---	---	---
NORMAL	1.62	1.45	1.78	2.76	4.39	2.66	---	---	---	---	---	---
%PON PER MONTH	119	128	101	43	56	20	---	---	---	---	---	---
ACCUMULATED	1.92	3.77	5.56	6.74	9.19	9.72	---	---	---	---	---	---
NORMAL												
ACCUMULATION	1.62	3.07	4.85	7.61	12.00	14.66	---	---	---	---	---	---
% PON ACCUMULATED	119	123	115	89	77	66	---	---	---	---	---	---

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2015 Average Rainfall Accumulation per Climate Zones

Northern Slopes	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
OBSERVED	4.32	3.80	1.98	2.83	1.98	1.70	---	---	---	---	---	---
NORMAL	4.20	3.03	3.23	5.26	7.47	4.96	---	---	---	---	---	---
%PON PER MONTH	103	125	61	54	27	34	---	---	---	---	---	---
ACCUMULATED	4.32	8.12	10.10	12.93	14.91	16.61	---	---	---	---	---	---
NORMAL												
ACCUMULATION	4.20	7.23	10.46	15.72	23.19	28.15	---	---	---	---	---	---
% PON ACCUMULATED	103	112	97	82	64	59	---	---	---	---	---	---

Southern Slopes	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
OBSERVED	2.39	2.84	2.00	1.47	2.68	0.92	---	---	---	---	---	---
NORMAL	2.00	1.86	2.28	3.91	5.90	3.54	---	---	---	---	---	---
%PON PER MONTH	120	153	88	38	45	26	---	---	---	---	---	---
ACCUMULATED	2.39	5.23	7.23	8.70	11.38	12.30	---	---	---	---	---	---
NORMAL												
ACCUMULATION	2.00	3.86	6.14	10.05	15.95	19.49	---	---	---	---	---	---
% PON ACCUMULATED	120	135	118	87	71	63	---	---	---	---	---	---

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2015 Average Rainfall Accumulation per Climate Zones

Eastern Interior	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
OBSERVED	4.34	5.83	2.70	1.89	3.11	2.64	---	---	---	---	---	---
NORMAL	4.69	3.92	3.90	5.26	8.15	6.39	---	---	---	---	---	---
%PON PER MONTH	93	149	69	36	38	41	---	---	---	---	---	---
ACCUMULATED	4.34	10.17	12.87	14.76	17.87	20.51	---	---	---	---	---	---
NORMAL												
ACCUMULATION	4.69	8.61	12.51	17.77	25.92	32.31	---	---	---	---	---	---
% PON ACCUMULATED	93	118	103	83	69	63	---	---	---	---	---	---

Western Interior	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
OBSERVED	3.60	5.06	3.79	6.65	7.25	4.79	---	---	---	---	---	---
NORMAL	3.90	2.75	3.57	6.77	10.09	5.83	---	---	---	---	---	---
%PON PER MONTH	92	184	106	98	72	82	---	---	---	---	---	---
ACCUMULATED	3.60	8.66	12.45	19.10	26.35	31.14	---	---	---	---	---	---
NORMAL												
ACCUMULATION	3.90	6.65	10.22	16.99	27.08	32.91	---	---	---	---	---	---
% PON ACCUMULATED	92	130	122	112	97	95	---	---	---	---	---	---

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2015 Average Rainfall Accumulation per Climate Zones

Mainland PR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
OBSERVED	3.45	4.15	2.71	3.33	4.15	2.40	---	---	---	---	---	---
NORMAL	3.41	2.66	2.94	4.85	7.21	4.68	---	---	---	---	---	---
%PON PER MONTH	101	156	92	69	58	51	---	---	---	---	---	---
ACCUMULATED	3.45	7.60	10.31	13.64	17.79	20.19	---	---	---	---	---	---
NORMAL												
ACCUMULATION	3.41	6.07	9.01	13.86	21.07	25.75	---	---	---	---	---	---
% PON ACCUMULATED	101	125	114	98	84	78	---	---	---	---	---	---

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2015 Average Rainfall Accumulation per Climate Zones

Saint Thomas/Saint John	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
OBSERVED	1.46	3.92	1.26	0.54	2.32	1.97	---	---	---	---	---	---
NORMAL	2.72	1.71	1.47	2.92	3.90	2.54	---	---	---	---	---	---
%PON PER MONTH	54	229	86	18	59	78	---	---	---	---	---	---
ACCUMULATED	1.46	5.38	6.64	7.18	9.50	11.47	---	---	---	---	---	---
NORMAL												
ACCUMULATION	2.72	4.43	5.90	8.82	12.72	15.26	---	---	---	---	---	---
% PON ACCUMULATED	54	121	113	81	75	75	---	---	---	---	---	---

Saint Croix	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
OBSERVED	2.17	1.66	0.96	1.93	0.89	1.52	---	---	---	---	---	---
NORMAL	2.00	1.61	1.53	2.47	3.88	2.60	---	---	---	---	---	---
%PON PER MONTH	109	103	63	78	23	58	---	---	---	---	---	---
ACCUMULATED	2.17	3.83	4.79	6.72	7.61	9.13	---	---	---	---	---	---
NORMAL												
ACCUMULATION	2.00	3.61	5.14	7.61	11.49	14.09	---	---	---	---	---	---
% PON ACCUMULATED	109	106	93	88	66	65	---	---	---	---	---	---

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June 2015 in Perspective

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Top 5 **Wettest**

Top 5 **Driest**

Islandwide

Year	Inches
Jun-62	9.91
Jun-79	9.89
Jun-70	9.65
Jun-58	9.36
Jun-56	9.25

Year	Inches
Jun-14	1.66
Jun-12	1.68
Jun-97	2.23
Jun-77	2.30
Jun-15	2.40

Mean Rainfall:
4.68 inches

Total rainfall accumulation:
2.40 inches

June 2015 ended as the 5th driest June on record.



June 2015 in Perspective

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Top 5 **Wettest**

Top 5 **Driest**

San Juan Metro Area

Year	Inches
2011	13.60
1902	12.22
1938	11.76
2013	11.29
1965	10.96

Year	Inches
2012	0.16
1985	0.29
2014	0.77
1997	0.98
1971	1.24

Mean Rainfall:
4.41 inches

Total rainfall
accumulation:
2.11 inches



June 2015 in Perspective

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Top 5 Wettest

Top 5 Driest

Cyril E. King Airport St Thomas

Year	Inches
2010	9.51
1956	8.29
1983	6.97
2009	5.33
1973	5.00

Year	Inches
2007	0.07
2012	0.08
2014	0.14
2003	0.18
1989	0.28

Mean Rainfall:
2.53 inches

Total rainfall
accumulation:
1.07 inches

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June 2015 in Perspective

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Top 5 Wettest

Henry E. Rohlsen Airport St Croix

Year	Inches
1987	7.83
2011	7.31
2010	7.03
1979	6.34
2013	4.9

Top 5 Driest

Year	Inches
2001	0.10
1985	0.12
2012	0.26
2014	0.47
2003	0.49

Mean Rainfall:
2.31 inches

Total rainfall
accumulation:
0.56 inches

June 2015
ended as the 7th
driest June on
record.



June 2015 in Perspective

Wettest Days

Station	Inches	Date
MOROVIS 1 N	2.23	6/3/2015
HACIENDA CONSTANZA 2W	1.50	6/23/2015
ARECIBO OBSY	1.50	6/23/2015
PALMAREJO VEGA BAJA	1.50	6/2/2015
EAST END	1.50	6/2/2015

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June 2015 Highlights for Primary Climatological Data Sites

Wettest Days

San Juan Metro Area

Inches	Date
0.64	6/12/2015
0.41	6/30/2015
0.21	6/22/2015
0.2	6/26/2015
0.14	6/11/2015

Cyril E. King AP/St Thomas

Inches	Date
0.23	6/6/2015
0.22	6/18/2015
0.22	6/11/2015
0.14	6/30/2015
0.09	6/7/2015

Henry E. Rohlsen AP/St. Croix

Inches	Date
0.23	6/6/2015
0.22	6/18/2015
0.22	6/11/2015
0.14	6/30/2015
0.09	6/7/2015

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TEMPERATURE

Islandwide climate record period: 1940 to 2015

San Juan Metro Area climate record period: 1898 to 2015 (Primary climatological site)

Cyril E. King Airport/St Thomas climate record period: 1953 to 2015 (Primary climatological site)

Henry E. Rohlsen Airport/St Croix climate record period: 1951 to 2015 (Primary climatological site)

Following WMO criteria: Less than 10% of missing values

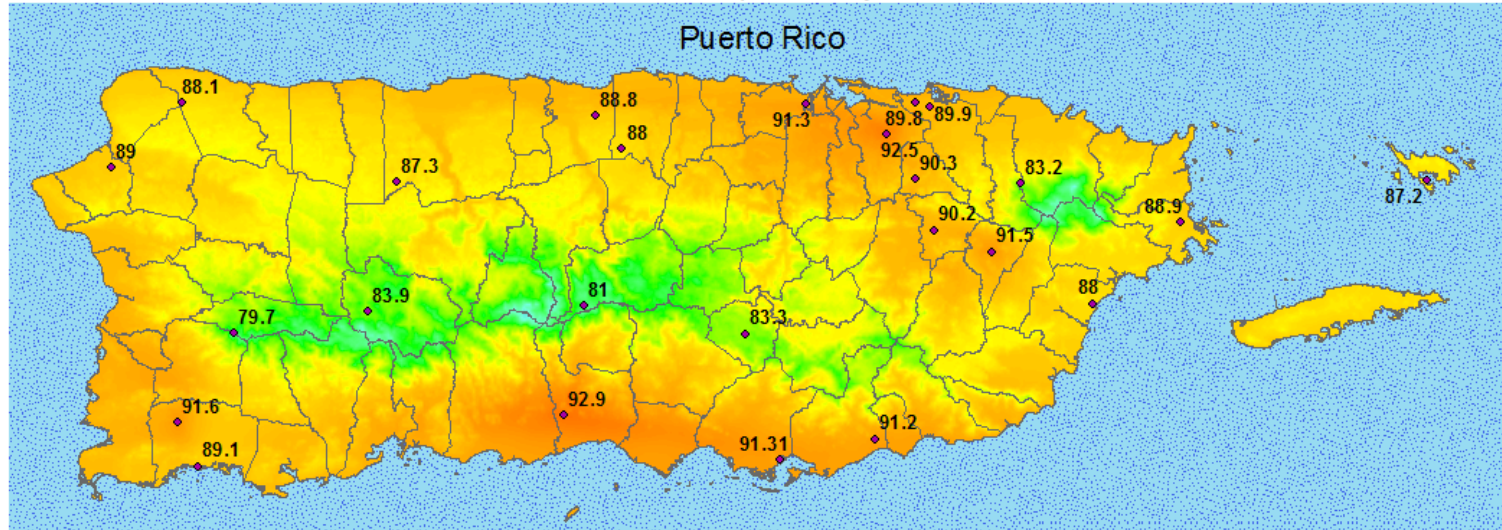




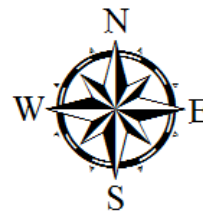
2015 June Mean Maximum Temperatures

National Weather Service WFO San Juan

Data is preliminary



Miles
0 5 10 20 30 40



Temperature Range °F

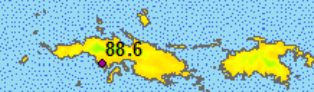


High : 100

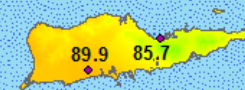
80

Low : 60

Saint Thomas / Saint John



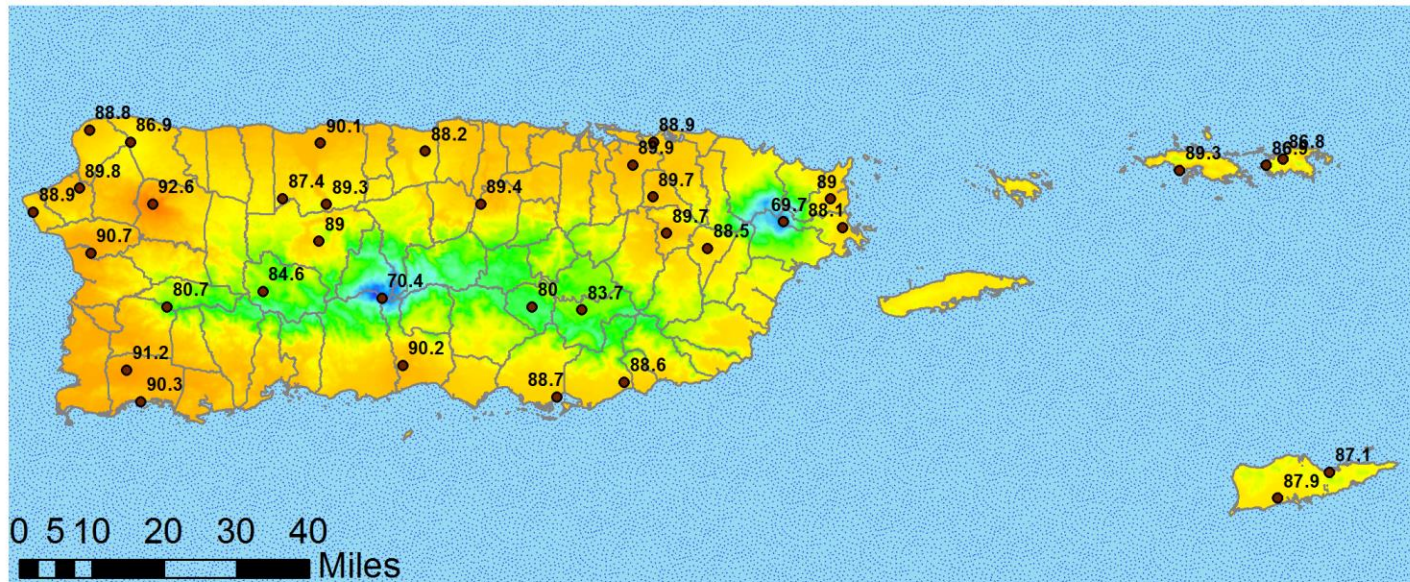
Saint Croix





June Normal Maximum Temperatures 1981-2010

National Weather Service WFO San Juan



Temperature Range °F



High : 100

80

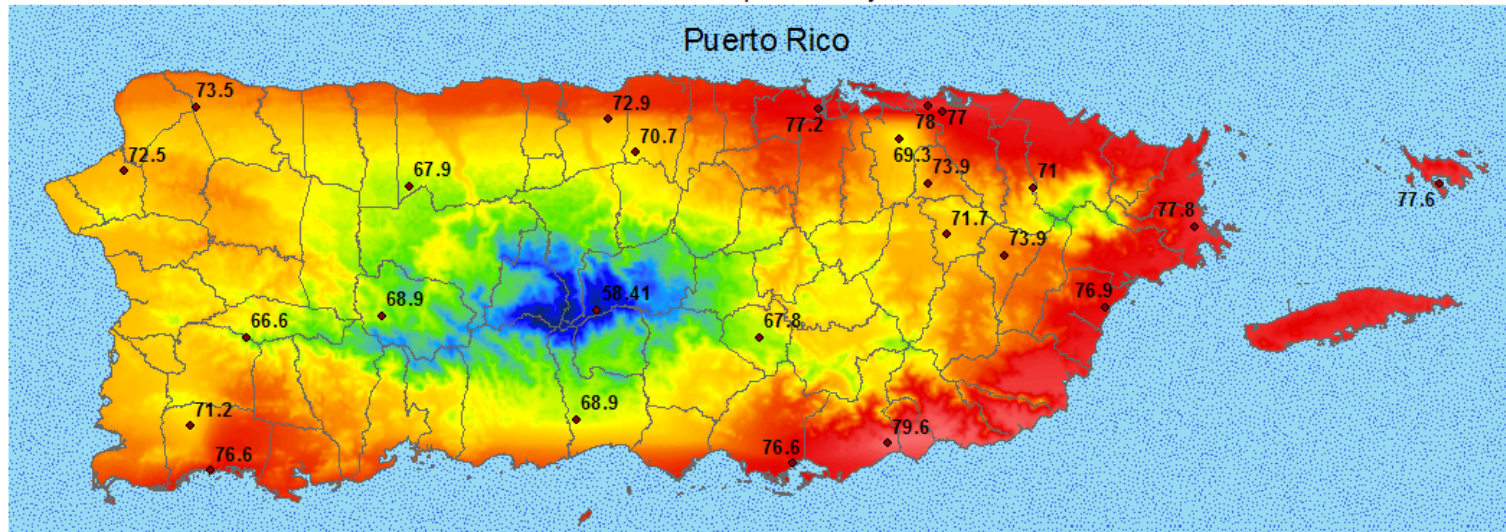
Low : 60





2015 June Mean Minimum Temperatures

National Weather Service WFO San Juan
Data is preliminary



0 5 10 20 30 40 Miles



Temperature Range °F

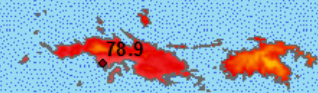


High : 80

65

Low : 50

Saint Thomas / Saint John



Saint Croix





Temperature Range °F



Low : 50



June 2015 in Perspective: Mean Avg. Temperature

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Top 5 Warmest

Top 5 Coolest

San Juan Metro Area

Year	°F
2012	85.7
1983	85.4
2014	85.2
1980	85.1
1988	84.2

Year	°F
1913	77.8
1923	78.2
1943	78.4
1939	78.5
1922	78.5

Mean Temperature:
83.3 °F

June 2015 mean
temperature 83.9 °F

June 2015 ended
as the 8th warmest
June on record.



June 2015 in Perspective: Mean Avg. Temperature

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Top 5 Warmest

Top 5 Coolest

Cyril E. King Airport St Thomas

Year	°F
1994	86.4
1996	86.2
1979	86.1
1995	85.7
1993	84.5

Year	°F
1956	80.0
1976	81.0
1981	81.6
1972	81.6
2009	81.7

Mean Temperature:
83.5 °F

June 2015 mean
temperature 83.7 °F



June 2015 in Perspective: Mean Avg. Temperature

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Top 5 Warmest

Henry E. Rohlsen Airport St Croix

Year	°F
1980	85.6
1972	85.0
1998	84.6
1994	84.3
1988	84.3

Top 5 Coolest

Year	°F
1982	79.5
1979	80.2
1955	80.6
1956	81.2
2007	81.4

Mean Temperature:
83.0 °F

June 2015 mean
temperature 84.0 °F

June 2015 ended as
the 8th warmest
June on record.



June 2015 Highlights

Highest **Maximum** Temps

Station	Value (°F)	Date
LAJAS SUBSTATION	96	6/23/2015
RIO PIEDRAS EXP STN	96	6/17/2015
TOA BAJA LEVITOWN	95	6/14/2015
GUAYAMA 2 E	94	6/22/2015
SAN JUAN L M MARIN AP	94	6/5/2015

Lowest **Minimum** Temps

Station	Value (°F)	Date
MARICAO 2 SSW	65	6/23/2015
AIBONITO	66	6/9/2015
ARECIBO OBSY	66	6/18/2015
LAJAS SUBSTATION	67	6/21/2015



2015 Highlights for Primary Climatological Data Sites

Summer

	Jun	Jul	Aug	Season	YTD Data until 6/30
San Juan	17 th driest and 8 th warmest	---	---	---	10 th driest and 5 th warmest
Saint Thomas	13 th driest and 13 th warmest	---	---	---	2 nd wettest and 8 th warmest
Saint Croix	7 th driest and 8 th warmest	---	---	---	Driest and 5 th warmest

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2015 Highlights for Primary Climatological Data Sites

Spring

	Mar	Apr	May	Season	YTD Data until 5/31
San Juan	---	4 th warmest	15 th driest and 5 th warmest	5 th driest and 6 th warmest	4 th warmest
Saint Thomas	---	8 th driest	9 th wettest and 10 th warmest	14 th warmest	wettest
Saint Croix	10 th driest	7 th driest and 7 th warmest	9 th warmest and 12 th driest	2 nd driest and 7 th warmest	5 th warmest and 2 nd driest

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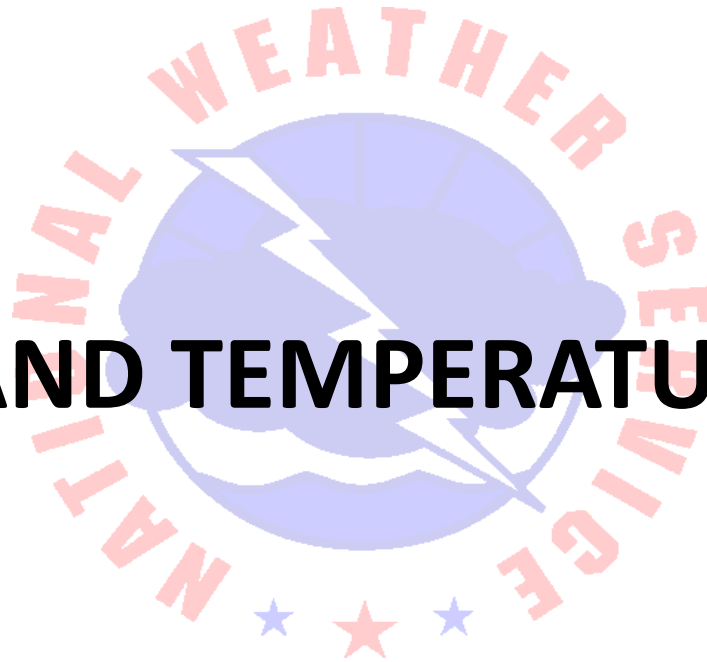
2015 Highlights for Primary Climatological Data Sites

Winter

	Dec (2014)	Jan	Feb	Season
San Juan	---	3 rd warmest	6 th warmest	5 th warmest
Saint Thomas	---	---	wettest and 6 th wettest month	wettest
Saint Croix	8 th wettest	14 th driest	6 th warmest	---



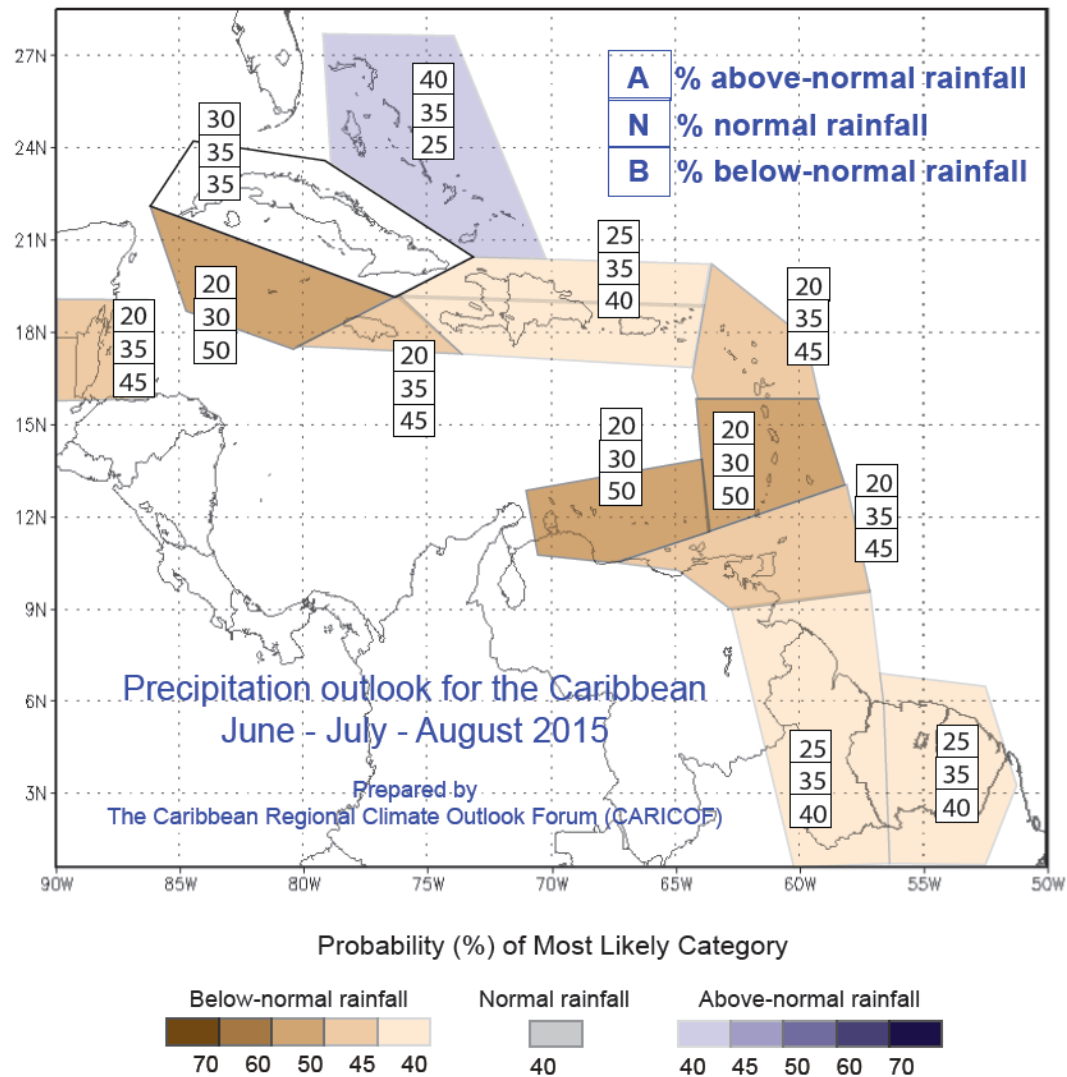
RAINFALL AND TEMPERATURE OUTLOOK



WFO

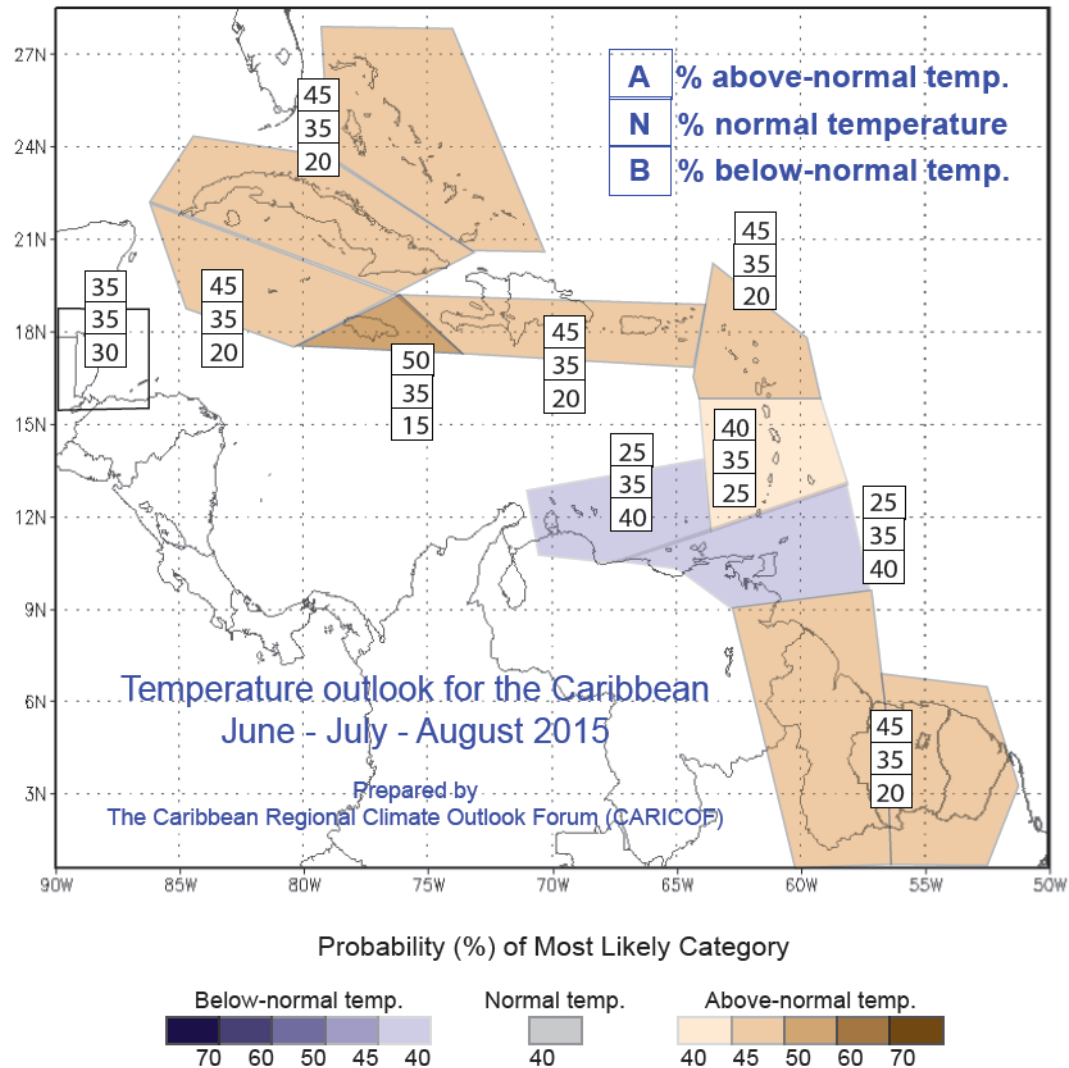
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<http://www.cimh.edu.bb/?p=precipoutlook>





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